



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.            | CONFIRMATION NO. |
|--|-------------|----------------------|--------------------------------|------------------|
| 10/671,626   | 09/29/2003  | Takuya Hamada        | HAMA3005/EM                    | 6229             |
| 23364  | 7590        | 08/23/2005           |                                |                  |
| BACON & THOMAS, PLLC<br>625 SLATERS LANE<br>FOURTH FLOOR<br>ALEXANDRIA, VA 22314 |             |                      | EXAMINER<br>SANTIAGO, MARICELI |                  |
|  |             |                      | ART UNIT<br>2879               | PAPER NUMBER     |

DATE MAILED: 08/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/671,626

Applicant(s)

HAMADA ET AL.

Examiner

Mariceli Santiago

Art Unit

2879

pm

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6 and 7 is/are allowed.
- 6) ☒ Claim(s) 1 and 3 is/are rejected.
- 7) ☒ Claim(s) 2 and 4-7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "A fluorescent display device wherein light is emitted by impinging a low speed electron beam on a phosphor layer formed on an anode", must be shown or the features canceled from the claims 1-5. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

Claims 5-7 are objected to because they include essential subject matter enclosed within parentheses. While reference characters corresponding to elements recited in the detailed

Art Unit: 2879

description of the drawings and used in conjunction with the recitation of the same element or group of elements in the claims should be enclosed within parentheses, so as to avoid confusion with other numbers or characters which may appear in the claims, essential subject matter should not be enclosed within parentheses since references enclosed within parentheses do not constitute a limitation. See MPEP § 608.01(m).

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 and 3 are rejected under 35 U.S.C. 102(e) as being anticipated by Hamada et al (US 6,690,119).

The applied reference has common inventors with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claims 1 and 3, Hamada discloses a fluorescent display device wherein light is emitted by impinging a low speed electron beam on a phosphor layer formed on an anode, wherein the phosphor layer comprises a compound containing at least P<sub>2</sub>O<sub>5</sub> (Column 2, lines 12-19), the compound being added in an amount of 0.01 to 10.00 wt% to the phosphor layer (Column 2, lines 20-31).

Art Unit: 2879

Claim 1 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Yu et al. (US 6,416,688).

Regarding claim 1, Yu discloses a fluorescent display device (Column 1, lines 15-21) wherein light is emitted by impinging a low speed electron beam on a phosphor layer, wherein the phosphor layer comprises a compound containing at least P (Table 1). Although, Yu fails to explicitly claim the limitation of the phosphor layer provided on an anode, one skilled in the art would reasonable contemplate within Yu's teaching the provision of the phosphor layer on an anode, as evidenced by Yu's teaching of a vacuum fluorescent display, which are conventionally known to provide a phosphor layer on an anode element.

#### ***Allowable Subject Matter***

Claims 6 and 7 are allowed over the prior art of record.

Claim 2, 4 and 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 2, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 2, and specifically comprising the limitation of a fluorescent display device wherein light is emitted by impinging a low speed electron beam on a phosphor layer on an anode, wherein the phosphor layer comprises a compound containing at least P, K and Na, and a compound containing W.

Regarding claim 4, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 4, and specifically comprising the limitation of the phosphor layer comprises a compound selected from the group consisting of  $K_3PO_4$ ,  $P_2O_5$

Art Unit: 2879

and  $\text{Na}_2\text{SiO}_3$ , the compound being added in an amount of 0.01 to 10.00 wt% to the phosphor layer, and another compound containing W.

Regarding claim 5, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 5, and specifically comprising the limitation of the phosphor is a compound containing at least one selected from the group consisting of a (Zn,Mg)O system phosphor,  $\text{ZnO}:\text{Zn}$ ,  $\text{Ln}_2\text{O}_2\text{S}:\text{Re}$ , wherein Ln is La, Gd or Lu, and Re is Eu or Tb,  $\text{ZnGa}_2\text{O}_4$  and  $\text{ZnGa}_2\text{O}_4:\text{Mn}$

Regarding claims 6 and 7, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claims 6 and 7, and specifically comprising the limitation of a phosphor containing at least one selected from the group consisting of a (Zn,Mg)O system phosphor,  $\text{ZnO}:\text{Zn}$ ,  $\text{Ln}_2\text{O}_2\text{S}:\text{Re}$ , wherein Ln is La, Gd or Lu, and Re is Eu or Tb,  $\text{ZnGa}_2\text{O}_4$  and  $\text{ZnGa}_2\text{O}_4:\text{Mn}$ ; and a compound containing at least one selected from the group consisting of  $\text{K}_3\text{PO}_4$ ,  $\text{P}_2\text{O}_5$  and  $\text{Na}_2\text{SiO}_3$ .

#### ***Other Prior Art Cited***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

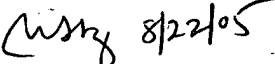
#### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mariceli Santiago whose telephone number is (571) 272-2464. The examiner can normally be reached on Monday-Friday from 9:30 AM to 6:00 PM.

Art Unit: 2879

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel, can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Mariceli Santiago  
Primary Examiner  
Art Unit 2879